

Appl. No. 09/615,978
Amdt. Dated May 7, 2004
Reply to Office action of Feb. 23, 2004

APPENDIX

Clean Copy of Claims:

Claim 1 (currently amended) A disposable absorbent article comprising:

- a topsheet;
- a backsheet; and
- an absorbent core disposed therebetween;

wherein said absorbent core is constructed of a first absorbent composite including

- an absorbent layer of hydratable fine fibers in the form of microfibril obtained from cellulose or a derivative thereof, and super absorbent polymer (SAP) particles bonded together by said hydratable fibers, a coating of mineral oil over said SAP particles of said absorbent layer, said coating being adapted to retard the initial receipt of liquid by said SAP in said absorbent layer; and
- a nonwoven substrate supporting said absorbent layer, said absorbent layer being coated thereupon; and
- a pair of longitudinally-extending, upstanding cuffs spaced laterally from said core, each said cuff including a folded portion of said topsheet and a longitudinally-extending absorbent composite section secured within said folded portion, said longitudinally-extending absorbent composite section including an absorbent layer of hydratable fine fibers in the form of microfibril obtained from cellulose or a derivative thereof, and super absorbent polymer (SAP) particles bonded together by said hydratable fibers, and a nonwoven substrate supporting said absorbent layer, said absorbent layer being coated thereupon; and

wherein said first absorbent composite of said core and said longitudinally extending absorbent composite sections of said cuffs are distinct swellable SAP sections of one continuous absorbent composite structure positioned about a crotch region of said article, said continuous absorbent composite structure being folded between each said longitudinally extending absorbent composite section and said absorbent core to form a substantially non-swellable intersection therebetween; and

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wherein said absorbent layer includes a low cross link SAP adapted to gel block upon wetting such that said backsheet is substantially impervious when wet and said backsheet is breathable when dry; and

wherein said SAP are water-swellaable particles included in a concentration in the range of about 50 g/m² to about 500 g/m².

Claims 2-4 (canceled)

Claim 5 (currently amended) The article of claim 1, wherein said nonwoven substrate is a section of said topsheet.

Claim 6 (canceled)

Claim 7 (canceled)

Claim 8 (currently amended) The absorbent article of claim 1, wherein said first absorbent composite is a prefabricated sheet.

Claim 9 (currently amended) The absorbent article of claim 8, wherein said first absorbent composite of said core includes a plurality of said absorbent layers, said layers being spaced apart from one another such that non-coated surface sections of said substrate are exposed therebetween.

Claim 10 (original) The absorbent article of claim 9, wherein said non-coated surface sections form wicking zones between said absorbent layers.

Claim 11 (canceled)

Claim 12 (canceled)

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Claim 13 (currently amended) The absorbent article of claim 1, wherein said first absorbent composite forms said backsheet and said core, said backsheet having a section providing said nonwoven substrate and said absorbent layer being concentrated at a crotch region of said backsheet to form said absorbent core.

Claim 14 (canceled)

Claim 15 (currently amended) The absorbent article of claim 1, wherein said first absorbent composite further includes a concentration of pulp material, said absorbent layer and said nonwoven substrate forming a sheet disposed about said pulp concentration such that said pulp concentration is disposed between at least two layers of said sheet of absorbent layer and nonwoven substrate.

Claim 16 (currently amended) The absorbent article of claim 1, wherein said first absorbent composite forms at least a portion of said topsheet and said absorbent core, said topsheet having a section providing said nonwoven substrate and said absorbent layer forming said core.

Claim 17 (original) The absorbent article of claim 1, wherein said absorbent layer includes low-cross link, low gel strength SAP having free swell capacities of over 40 g/g and such that said absorbent layer is adapted to gel block upon wetting so as to be substantially impervious but is breathable when dry.

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Claim 18 (currently amended) A disposable absorbent article comprising:

- a topsheet;
- a backsheet;
- a pair of longitudinally-extending upstanding cuffs, each cuff having two sheet layers;
- a continuous absorbent composite including
 - an absorbent layer of hydratable fine fibers in the form of microfibril obtained from cellulose or a derivative thereof, and absorbent polymer (SAP) particles bonded together by said hydratable fibers, and
 - a nonwoven substrate supporting said absorbent layer, said absorbent layer being coated thereupon; and
 - wherein said absorbent layer is disposed between said topsheet and said backsheet, and generally centrally at a location identified as a crotch region, said absorbent layer providing a swellable absorbent core for absorbing bodily exudates received in said crotch region; and
 - wherein said cuffs are spaced laterally from said absorbent core, and wherein said continuous absorbent composite includes two swellable longitudinally-extending composite sections extending upwardly from said crotch region into said cuffs and between the cuff layers, said continuous absorbent composite forming an absorbent structure about said crotch region; and
 - wherein said SAP are water-swellaible bodies included in a concentration of about 20 gsm and said nonwoven substrate is a spunbond/meltblown/spunbond (SMS) having a basis weight in the range of about 10 gsm to 60 gsm; and
 - wherein each of said swellable absorbent core and two longitudinally-extending composite sections forms a distinct swellable SAP section of said continuous absorbent composite, said continuous absorbent composite being folded between said swellable absorbent core and each said longitudinally extending composite sections to form a substantially non-swellaible intersection therebetween,

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Claim 19 (currently amended) The article of claim 18, wherein said absorbent layer is supported underneath a section of said topsheet, such that said section of said topsheet provides said nonwoven substrate.

Claim 21 (canceled)

Claim 22 (currently amended) The article of claim 18, wherein said absorbent layer is supported on said backsheet, such that a section of said backsheet provides said nonwoven substrate.

Claim 23 (previously presented) The article of claim 18, wherein said absorbent layer includes a low cross link SAP adapted to gel block upon wetting such that said backsheet is substantially impervious when wet and said backsheet is breathable when dry.

Claim 24 (canceled)

Claim 28 (original) The absorbent article of claim 18, wherein said absorbent composite further includes a concentration of pulp material, said absorbent layer and said nonwoven substrate forming a sheet disposed about said pulp concentration such that said pulp concentration is disposed between at least two layers of said sheet of absorbent layer and nonwoven substrate.

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Claim 30 (currently amended) In a disposable absorbent article having an absorbent core disposed between a topsheet and a backsheet, a prefabricated absorbent composite comprising:

an absorbent layer of hydratable fine fibers in the form of microfibril obtained from cellulose or a derivative thereof, and absorbent polymer (SAP) particles bonded together by said hydratable fibers, and

a nonwoven substrate supporting said absorbent layer, said absorbent layer being coated thereupon;

wherein said absorbent layer is disposed between said topsheet and said backsheet, and generally centrally in said article at a location identified as a crotch region, said absorbent layer providing an absorbent core for absorbing bodily exudates received by the crotch region; and

wherein said article includes a pair of longitudinally-extending, upstanding cuffs spaced laterally from said absorbent core, each cuff having two sheet layers, and wherein said absorbent composite includes two longitudinally-extending composite sections extending upwardly from the crotch region into said cuffs and between said cuff layers; and

wherein said absorbent layer includes a low cross link SAP adapted to gel block upon wetting such the said backsheet is substantially impervious when wet and the backsheet is breathable when dry; and

wherein each said longitudinally-extending composite sections and said absorbent core is a distinct swellable section of one continuous absorbent composite structure positioned about the crotch region, said continuous absorbent structure including folds providing an interface between each longitudinally-extending composite section and said absorbent core, each said interface being a non-SAP coated band that restricts swelling therearound.

Claim 31 (currently amended) The absorbent composite of claim 30, wherein said absorbent layer is supported underneath a section of said topsheet, such that said section of topsheet provides said nonwoven substrate.

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Claim 32 (canceled)

Claim 33 (currently amended) The absorbent composite of claim 30, wherein said absorbent layer is supported on a section of said backsheet, such that said backsheet section provides said nonwoven substrate.

Claim 34 (canceled)

Claim 35 (currently amended) The absorbent composite of claim 30, wherein said low cross-link SAP is low-gel strength SAP characterized by a free swell capacity greater than about 40 g/g.

Claim 36 (original) The absorbent composite of claim 30, wherein said SAP are water-swellaable bodies included in a concentration of about 50 gsm to 500 gsm.

Claim 37 (canceled)

Claim 38 (original) The absorbent composite of claim 30, further comprising a coating of mineral oil over said SAP particles of said absorbent layer, said coating being adapted to retard the initial receipt of liquid by said SAP in said absorbent layer.

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Claim 39 (canceled)

Claim 40 (new) The disposable absorbent article of claim 1, wherein said non-swella-
ble intersection between said absorbent core and each said longitudinally-
extending absorbent composite, is a non-swella-
ble, non-SAP coated band.

Claim 41 (new) The disposable absorbent article of claim 18, wherein each
said intersection is a non-swella-
ble, non-SAP coated band.

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Claim 42 (new) A disposable absorbent article comprising:

- a topsheet;
- a backsheet;
- a pair of longitudinally-extending upstanding cuffs, each cuff having two layers; and
- a continuous prefabricated sheet of an absorbent composite including
 - an absorbent layer of hydratable fine fibers in the form of microfibril obtained from cellulosus or a derivative thereof, and super absorbent polymer (SAP) particles bonded together by said hydratable fibers, and
 - a nonwoven substrate supporting said absorbent layer, said absorbent layer being coated thereupon; and
 - wherein said absorbent composite includes an absorbent core generally centrally located at a crotch region of said article, said absorbent core being positioned to absorb bodily exudates received in said crotch region; and
 - wherein said absorbent composite includes two longitudinally-extending swellable composite sections each extending upwardly from said crotch region into one of said cuffs and between said cuff layers; and
 - wherein said absorbent core and said longitudinally-extending swellable composite sections form distinct swellable SAP sections of a continuous absorbent structure positioned about said crotch region, said continuous absorbent structure being folded between each longitudinally-extending swellable composite section and said absorbent core to form a non-swellable intersection therebetween.